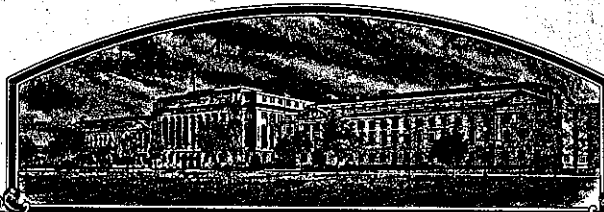


No.

8400075



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Pioneer Hi-Bred International, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *Eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT 542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'9271'



In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington this 26th day of April in the year of our Lord one thousand nine hundred and eighty-five.

Attest

Kenneth H. Harris
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

John R. Block

Secretary of Agriculture

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION

FORM APPROVED
OMB NO. 40-R3822

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: See Reverse.

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1a. TEMPORARY DESIGNATION OF VARIETY		1b. VARIETY NAME 9271		FOR OFFICIAL USE ONLY PV NUMBER 8400075	
2. KIND NAME Soybean		3. GENUS AND SPECIES NAME Glycine max		FILING DATE 3/20/84	TIME 2:30 AM P.M.
4. FAMILY NAME (BOTANICAL) Leguminosae		5. DATE OF DETERMINATION October, 1978 January, 1982 (increase)		FEE RECEIVED \$ 1,800 \$ 200.00	DATE 3/20/84 3/27/85
6. NAME OF APPLICANT(S) Pioneer Hi-Bred International, Inc.		7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) Capital Square 400 Locust Street Des Moines, Iowa 50309		8. TELEPHONE AREA CODE AND NUMBER (319)277-1733	
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.) Corporation		10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION Iowa		11. DATE OF INCORPORATION 1926	
12. NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS: Clark W. Jennings Box 854 Cedar Falls, Iowa 50613 Dale L. Porter (copy) Capital Square - 400 Locust St. Des Moines, Iowa 50309					

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

- ☒ 13A. Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)
- ☒ 13B. Exhibit B, Novelty Statement.
- ☒ 13C. Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.)
- ☐ 13D. Exhibit D, Additional Description of the Variety.

14a. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a). (If "Yes," answer 14B and 14C below.) ☐ YES ☒ NO

14b. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? ☐ YES ☒ NO

14c. IF "YES," TO 14B, HOW MANY GENERATIONS OF PRODUCTION BEYOND BREEDER SEED? ☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

15a. DID THE APPLICANT(S) FILE FOR PROTECTION OF THIS VARIETY IN OTHER COUNTRIES? ☐ YES ☒ NO (If "Yes," give name of countries and dates.)

15b. HAVE RIGHTS BEEN GRANTED THIS VARIETY IN OTHER COUNTRIES? ☐ YES ☒ NO (If "Yes," give name of countries and dates.)

16. DOES THE APPLICANT(S) AGREE TO THE PUBLICATION OF HIS/HER (THEIR) NAME(S) AND ADDRESS IN THE OFFICIAL JOURNAL? ☒ YES ☐ NO

17. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

14 March 1984

(DATE)

Clark Jennings
(SIGNATURE OF APPLICANT)

(DATE)

(SIGNATURE OF APPLICANT)

8400075

Attachment: 9271 Soybean (March, 1984)

Exhibit A: Variety 9271 evolved from a cross of 149-66 X Williams. (149-66 was derived from a cross of Corsoy X Magna.) It is an F₅-derived variety which was advanced to the F₅ generation by modified single-seed descent. The F₆ progeny row of 9271 was grown in Iowa during the summer of 1978. Subsequently, 9271 has undergone five years of extensive testing and purification and has been observed by the breeder to be uniform and stable for all plant traits from generation to generation, with no evidence of variants.

Seed hila of variety 9271 are light brown in color, and under certain environmental conditions may appear buff or light tan in color. When seeds of this type are planted, they produce plants having seeds with light brown hila color.

4 acres of 9271 (breeders seed) were grown in 1982. 100 acres of parent seedstock (foundation seed equivalent) were grown in 1983.

Exhibit B: Variety 9271 is most similar to the varieties Century and S1474. However, it differs from Century in hilum color. Century has a black hilum color, whereas 9271 has a brown hilum color. It differs from S1474 in seed protein peroxidase activity; S1474 has a low activity, whereas 9271 has a high activity.

Attachment: 9271 Soybean (October 1984)

Exhibit B (Addendum): Variety 9271 is also similar to the variety CX290. However, it differs from CX290 in seed protein peroxidase activity; CX290 has a low activity, whereas 9271 has a high activity. Additionally, CX290 is significantly taller in plant height than 9271, by 14 inches (see Table 1).

Table 1. Paired Comparison (Plant Height in Inches) - 1984 data

Year/Test/Rep	CX290(X ₁)	9271(X ₂)	(X ₁ -X ₂)	(X ₁ -X ₂) ²
84 / BN / 1	48	34	14	196
84 / BN / 2	49	36	13	169
84 / BN / 3	50	34	16	256
84 / BN / 4	50	36	14	196
Σ	197	140	57	204.25
\bar{X}	49.25	35.0	14.25	

$$s_{\bar{d}} = \sqrt{\frac{204.25 - [(14.25)^2/4]}{4(3)}} = 3.576$$

$$t_{(.05)} = \frac{\bar{d}}{s_{\bar{d}}} = \frac{14.25}{3.576} = 3.985 ** \text{ for 3 df.}$$

U.S. DEPARTMENT OF AGRICULTURE
 AGRICULTURAL MARKETING SERVICE
 LIVESTOCK, MEAT, GRAIN & SEED DIVISION
 PLANT VARIETY PROTECTION OFFICE
 BELTSVILLE, MARYLAND 20705

EXHIBIT C
 (Soybean)

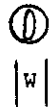
2

OBJECTIVE DESCRIPTION OF VARIETY
 SOYBEAN (*Glycine max* L.)

NAME OF APPLICANT(S) Pioneer Hi-Bred International, Inc.	TEMPORARY DESIGNATION	VARIETY NAME 9271
ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code) Capital Square 400 Locust street Des Moines, Iowa 50309		FOR OFFICIAL USE ONLY PVPO NUMBER 8400075

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g.,).

1. SEED SHAPE:



1 = Spherical (L/W, L/T, and T/W ratios = ≤ 1.2)
 3 = Elongate (L/T ratio > 1.2 ; T/W = ≤ 1.2)

2 = Spherical Flattened (L/W ratio > 1.2 ; L/T ratio = ≤ 1.2)
 4 = Elongate Flattened (L/T ratio > 1.2 ; T/W > 1.2)

2. SEED COAT COLOR: (Mature Seed)

1 = Yellow 2 = Green 3 = Brown 4 = Black 5 = Other (Specify) _____

3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

1 = Dull ('Corsoy 79'; 'Braxton') 2 = Shiny ('Nebsoy'; 'Gasoy 17')

4. SEED SIZE: (Mature Seed)

Grams per 100 seeds

5. HILUM COLOR: (Mature Seed)

1 = Buff 2 = Yellow 3 = Brown 4 = Gray 5 = Imperfect Black 6 = Black 7 = Other (Specify) _____

6. COTYLEDON COLOR: (Mature Seed)

1 = Yellow 2 = Green

7. SEED PROTEIN PEROXIDASE ACTIVITY:

1 = Low 2 = High

8. SEED PROTEIN ELECTROPHORETIC BAND:

1 = Type A (SP1^a) 2 = Type B (SP1^b)

9. HYPOCOTYL COLOR:

1 = Green only ('Evans'; 'Davis') 2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')
 3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')
 4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

10. LEAFLET SHAPE:

1 = Lanceolate 2 = Oval 3 = Ovate 4 = Other (Specify) _____

4

11. LEAFLET SIZE:

2

1 = Small ('Amsoy 71'; 'A5312')
3 = Large ('Crawford'; 'Tracy')

2 = Medium ('Corsoy 79'; 'Gasoy 17')

12. LEAF COLOR:

2

1 = Light Green ('Weber'; 'York')
3 = Dark Green ('Gnome'; 'Tracy')

2 = Medium Green ('Corsoy 79'; 'Braxton')

13. FLOWER COLOR:

2

1 = White

2 = Purple

3 = White with purple throat

14. POD COLOR:

2

1 = Tan

2 = Brown

3 = Black

15. PLANT PUBESCENCE COLOR:

2

1 = Gray

2 = Brown (Tawny)

16. PLANT TYPES:

1

1 = Slender ('Essex'; 'Amsoy 71')
3 = Bushy ('Gnome'; 'Govan')

2 = Intermediate ('Amcor'; 'Braxton')

17. PLANT HABIT:

3

1 = Determinate ('Gnome'; 'Braxton')

2 = Semi-Determinate ('Will')

3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

18. MATURITY GROUP:

0 5

1 = 000

2 = 00

3 = 0

4 = I

5 = II

6 = III

7 = IV

8 = V

9 = VI

10 = VII

11 = VIII

12 = IX

13 = X

19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

BACTERIAL DISEASES:

0

Bacterial Pustule (*Xanthomonas phaseoli* var. *sojensis*)

0

Bacterial Blight (*Pseudomonas glycinea*)

0

Wildfire (*Pseudomonas tabaci*)

FUNGAL DISEASES:

0

Brown Spot (*Septoria glycines*)Frogeye Leaf Spot (*Cercospora sojina*)

0

Race 1

0

Race 2

0

Race 3

0

Race 4

0

Race 5

0

Other (Specify)

0

Target Spot (*Corynespora cassiicola*)

0

Downy Mildew (*Peronospora trifoliorum* var. *manshurica*)

0

Powdery Mildew (*Microsphaera diffusa*)

0

Brown Stem Rot (*Cephalosporium gregatum*)

0

Stem Canker (*Diaporthe phaseolorum* var. *caulivora*)

19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

FUNGAL DISEASES: (Continued)

☐ Pod and Stem Blight (*Diaporthe phaseolorum* var; *sojae*)☐ Purple Seed Stain (*Cercospora kikuchii*)☐ Rhizoctonia Root Rot (*Rhizoctonia solani*)Phytophthora Rot (*Phytophthora megasperma* var. *sojae*)☒ Race 1 ☒ Race 2 ☐ Race 3 ☐ Race 4 ☐ Race 5 ☐ Race 6 ☐ Race 7☐ Race 8 ☐ Race 9 ☐ Other (Specify) _____

VIRAL DISEASES:

☐ Bud Blight (Tobacco Ringspot Virus)☐ Yellow Mosaic (Bean Yellow Mosaic Virus)☐ Cowpea Mosaic (Cowpea Chlorotic Virus)☐ Pod Mottle (Bean Pod Mottle Virus)☐ Seed Mottle (Soybean Mosaic Virus)

NEMATODE DISEASES:

Soybean Cyst Nematode (*Heterodera glycines*)☐ Race 1 ☐ Race 2 ☒ Race 3 ☐ Race 4 ☐ Other (Specify) _____☐ Lance Nematode (*Hoplolaimus Colombus*)☐ Southern Root Knot Nematode (*Meloidogyne incognita*)☐ Northern Root Knot Nematode (*Meloidogyne Hapla*)☐ Peanut Root Knot Nematode (*Meloidogyne arenaria*)☐ Reniform Nematode (*Rotylenchulus reniformis*)☐ OTHER DISEASE NOT ON FORM (Specify): _____

20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

☒ Iron Chlorosis on Calcareous Soil☐ Other (Specify) _____

21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

☐ Mexican Bean Beetle (*Epilachna varivestis*)☐ Potato Leaf Hopper (*Empoasca fabae*)☐ Other (Specify) _____

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape	Century	Seed Coat Luster	S1474
Leaf Shape	Century	Seed Size	Century
Leaf Color	Century	Seed Shape	Century
Leaf Size	Century	Seedling Pigmentation	Century

23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

8400075

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS/ POD
				CM Width	CM Length	% Protein	% Oil		
9271 Submitted	126	1.8	91						
Century Name of Similar Variety	126	2.5	107						

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A₂ in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.